

## AMENDMENTS

### In the claims:

1. (Currently amended) A method of supporting an H.323 call using an H.323 system, the H.323 system including an first edge device and a ~~second~~ call-switching device, the ~~first~~ edge device coupled in communication with the ~~second~~ call-switching device, the ~~first~~ edge device having a first H.323 port, the method comprising:

~~responsive to receiving from an H.323 node a first admission request on the first device, the first admission request corresponding to a request from an H.323 terminal,~~

transmitting from the edge device to the call-switching device a second admission request for the H.323 call ~~from the first device to the second device;~~

responsive to transmitting the second admission request, receiving from the call-switching device at the edge device an admission confirmation for the H.323 call ~~from the second device at the first device, the admission confirmation~~ indicating that the H.323 call can proceed;

storing on the edge device ~~a call state information on the first device, the call state information~~ corresponding to a state of the H.323 call; and

updating the call state information on the ~~first~~ edge device after receiving the admission confirmation.

2. (Currently amended) The method of claim 1, further comprising:

responsive to receiving at the edge device ~~one of a first~~ registration request ~~and a status request associated with the H.323 call on the first device,~~ transmitting ~~the corresponding request~~

from the firstedge device to the ~~second~~call-switching device a second registration request corresponding to the first registration request;

responsive to transmitting the ~~corresponding~~ second registration request, receiving a ~~response to the corresponding request~~ from the ~~second~~call-switching device on the firstedge device a first response to the second registration request; and

updating the call status information on the firstedge device after receiving the first response to the corresponding request.

3. (Currently amended) The method of claim 2 further comprising responsive to receiving the first response, transmitting ~~the response~~ from the firstedge device to the H.323 terminal a second response corresponding the first response.

4. (Currently amended) The method of claim 1, wherein if a failure in the ~~second~~call-switching device occurs, the H.323 call continues uninterrupted.

5. (Currently amended) The method of claim 4, wherein the H.323 system includes a ~~third~~second call-switching device coupled in communication with the firstedge device, and the method further comprising:

receiving a message from the ~~third~~second call-switching device at the firstedge device, the message indicating the failure in the ~~second~~call-switching device;

updating the call state information after receiving the message;

using the ~~third~~second call-switching device to support at least one of a registration request, an admission request, and a status request associated with the H.323 call; and

updating the call status information on the first edge device responsive to the using.

6. (Currently amended) The method of claim 5, wherein the H.323 system includes a back end server, and the step of using the ~~third~~second call-switching device to support at least one of a registration request, an admission request, and a status request associated with the H.323 call further comprises generating for transmission to the back end server an accounting message for the H.323 call ~~to the back end server~~.

7. (Currently amended) The method of claim 4, wherein the H.323 system includes a ~~third~~second call-switching device, and wherein the ~~second~~call-switching device has an Internet protocol (IP) address, and the method further comprising assigning the ~~third~~second call-switching device the IP address of the ~~second~~call-switching device after the failure in the ~~second~~call-switching device.

8. (Currently amended) The method of claim 4, wherein billing information associated with the H.323 call is maintained after the failure in of the ~~second~~call-switching device.

9. (Currently amended) The method of claim 1, wherein the first H-323 port has a first Internet protocol (IP) address, and wherein ~~at the H.323 node terminal is coupled in~~ communication with the first device, and the terminal using uses the first edge device as an H.323 gateway for the H.323 call, and wherein the H.323 node has terminal having a second IP address, and the method further comprising:

supporting a standard network address translation (NAT) protocol on the first edge  
device;

receiving from the H.323 node at the edge device an H.323 packet ~~from the terminal~~; and  
using the standard NAT protocol to translateing the H.323 packet ~~using the standard NAT~~  
~~protocol so as to include~~ define the first IP address as a source address of the H.323 packet of the  
first IP address.

10. (Currently amended) The method of claim 9, further comprising:  
supporting on the edge device an H.323 proxy service ~~on the first device~~;  
receiving at the first H.323 port a second H.323 packet destined for the H.323 terminal at  
~~the first H.323 port~~, the second packet including a destination address of the first IP address, ~~the~~  
~~second H.323 packet for the terminal~~; and  
using the H.323 proxy server and the NAT protocol to ~~translating~~ translate the second  
H.323 packet so as to define the second IP address ~~using the H.323 proxy server and the NAT~~  
~~protocol to include as~~ the destination address of ~~the second IP address.~~

11. (Currently amended) The method of claim 1, wherein the call state information  
includes at least one of a call state, a bandwidth authorized amount, a bandwidth in use amount, a  
ringing status, a call timer, a call start time, and a list of open logical channels.

12. (Currently amended) An ~~edge router~~ virtual-distributed gatekeeper device  
comprising:

a first communication channel,~~the first communication channel capable of~~ for coupling the virtual-distributed gatekeeper device ~~edge router~~ in communication with at least one H.323 device;

a second communication channel,~~the second communication channel capable of~~ for coupling the virtual-distributed gatekeeper device ~~edge router~~ in communication with at least one element of packet-based network, the at least one element of the packet-based network for generating requests and receiving responses to at least one of a registration request, an admission request, and a status request, the virtual-distributed gatekeeper device ~~edge router~~ having an Internet protocol (IP) address for use on the packet-based network;

✓ a memory,~~the memory including~~ for holding a call state information, the call state information including information about H.323 calls placed by the at least one H.323 device coupled in communication with the virtual-distributed gatekeeper device ~~edge router~~; and

a processor,~~the processor~~ for processing communications on ~~said~~ the first channel and ~~said~~ second channels.

13. (Currently amended) The virtual-distributed gatekeeper device ~~edge router~~ of claim 12, wherein the processor supports a standard network address translation (NAT) protocol and an H.323 proxy server, the processor capable of translating a packet received over the first communication channel and routing the packet onto the packet-based network after applying the NAT protocol and the H.323 proxy server, the processor capable of translating a packet received

over the second communication channel and routing the packet to the H.323 device after applying the NAT protocol and the H.323 proxy server.

14. (Currently amended) The virtual-distributed gatekeeper device of claim 12A ~~gate controller~~ further comprising:

a ~~first~~ third communication channel, ~~the first communication channel capable of for~~ coupling the gate controller in communication with elements of a packet-based network, the elements of the packet-based network including a plurality of H.323 ports and a back end server;

a second memory, ~~the memory~~ for holding ~~including~~ a port status table and a cache, the port status table indicating the status of each of the plurality of H.323 ports;

a second processor, ~~the processor~~ for supporting registration, admission and status functions for each of the plurality of H.323 ports, the processor capable of processing at least one of a registration request, an admission request, and a status request received over the first communication channel from an H.323 port ~~in~~ of the plurality of H.323 ports.

15. (Currently amended) The virtual-distributed gatekeeper device ~~The gate controller~~ of claim 14, wherein the processor uses the cache to store the corresponding request, the processor capable of communicating over the first communication channel with a back end server to process the corresponding request, and the processor transmitting a response to the corresponding request after communicating with the back end server.

16. (Currently amended) A system comprising:

an first edge device, ~~the first device storing~~ having a first H.323 port and a memory, the memory ~~having containing~~ a call state information, the call state information including a call state for an H.323 call on the first H.323 port ~~for a significant period of time~~;

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a second <sup>gate controller</sup> ~~call-switching~~ device, ~~the second device~~ for responding to at least one of a registration request, an admission request, and a status request for the ~~first edge~~ device.

17. (Currently amended) The A-system of claim 16, wherein the edge device comprises:

a modified H.323 gateway, ~~the modified H.323 gateway storing~~ a parameter indicative representative of the an H.323 port and a the call state information corresponding to a state of a an H.323 call on the H.323 port for a significant period of time; and wherein the call-switching device comprises

a modified H.323 gatekeeper, ~~the modified H.323 gatekeeper not storing for processing transactional a call state information corresponding to a state of a the H.323 call on the H.323 port, whereby the modified H.323 gatekeeper does not maintain call state for the H.323 call for a significant period of time.~~

18. (Currently amended) The system of claim 17, wherein the H.323 call has a duration, and wherein the modified H.323 gateway storing stores the parameter indicative of the H.323 port and the call state information corresponding to the state of the H.323 call on the H.323 port for the significant period of time comprises storing the call state information for the duration of the call.

19. (Currently amended) The system of claim 17, wherein the modified H.323 gatekeeper supports responding to an admission request, and wherein the modified H.323 gatekeeper ~~not storing the call state information corresponding to the state of the call on the H.323 port for the significant period of time comprises:~~ is operable to:

receiving the call state information with the admission request; and

not storing the call state information after responding to the admission request.

20. (Currently amended) An edge apparatus for supporting an H.323 call, the H.323 call placed using an H.323 port on the edge apparatus, the edge apparatus comprising:

means for storing a call state information, ~~the call state information~~ about the H.323 call;

means for generating for transmission to a call-switching device an admission request for the H.323 call ~~to a first device~~;

means for receiving from the call-switching device an admission confirmation for the H.323 call ~~from the first device~~; and

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5/14/04 means for updating <sup>apparatus</sup> on the edge device the call state information after receiving the admission confirmation.

21. (Original) The apparatus of claim 20, further comprising means for supporting a standard network address translation protocol.

22. (Original) The apparatus of claim 20, further comprising means for supporting an H.323 proxy service.



23. (New) The method of claim 1, further comprising:

responsive to receiving at the edge device a first status request associated with the H.323 call, transmitting from the edge device to the call-switching device a second status request corresponding to the first status request;

responsive to transmitting the second status request, receiving from the call-switching device on the edge device a first response to the second status request; and

updating the call status information on the edge device after receiving the first response to the second status request.

24. (New) The method of claim 23, further comprising responsive to receiving the first response, transmitting from the edge device to the H.323 terminal a second response corresponding the first response.

25. (New) A method of supporting an H.323 call using an H.323 system, the H.323 system including an edge device and a call-switching device, the edge device coupled in communication with the call-switching device, the edge device having a first H.323 port, the method comprising:

receiving from an H.323 terminal a first request for call-admission control of the H.323 call, the first request being addressed to the edge device;

transmitting from the edge device to the call-switching device unbeknownst to the H.323 terminal a second request for call-admission control of the H.323 call;

responsive to transmitting the second request, receiving from the call-switching device at the edge device an call-admission-control confirmation for the H.323 call indicating that the H.323 call can proceed;

storing on the edge device call state information corresponding to a state of the H.323 call; and

updating the call state information on the edge device after receiving the admission confirmation.

26. (New) The method of claim 25, wherein the first and second requests for call-admission control of the H.323 call comprise any of a request for admission, a request for registration, and a request for status, wherein the call-admission-control confirmation for the H.323 call comprises any of a confirmation of the request for admission, a confirmation of the request for registration, and a confirmation of the request for status, and wherein updating the call state information on the edge device comprises updating the call state information on the edge device in response to any of the confirmation of the request for admission, the confirmation of the request for registration, and the confirmation of the request for status.

27. (New) The method of claim 26, further comprising responsive to receiving the call-admission-control confirmation, transmitting from the edge device to the H.323 terminal a response corresponding to the call-admission-control confirmation.

28. (New) The method of claim 25, wherein when a failure in the call-switching device occurs, the H.323 call continues uninterrupted.

29. (New) The method of claim 28, wherein the H.323 system includes a second call-switching device coupled in communication with the edge device, and the method further comprising:

receiving a message from the second call-switching device at the edge device, the message indicating failure of the call-switching device;

updating the call state information after receiving the message;

using the second call-switching device to support the call-admission control for the H.323 call; and

updating the call state information on the edge device responsive to the call-admission-control.

30. (New) The method of claim 29, wherein the H.323 system includes a back-end server, and the step of using the second call-switching device to support the call-admission control for the H.323 call further comprises generating for transmission to the back-end server an accounting message for the H.323 call.

31. (New) The method of claim 28, wherein the H.323 system includes a second call-switching device, and wherein the call-switching device has an Internet protocol (IP) address, and the method further comprising assigning to the second call-switching device after failure of the call-switching device the IP address of the call-switching device.

32. (New) The method of claim 28, wherein billing information associated with the H.323 call is maintained after failure of the call-switching device.

33. (New) The method of claim 25, wherein the first H-323 port has a first Internet protocol (IP) address, wherein the H.323 terminal uses the edge device as an H.323 gateway for the H.323 call, wherein the H.323 terminal has a second IP address, and the method further comprising:

supporting on the edge device a standard network address translation (NAT) protocol;

receiving from the terminal an H.323 packet; and

using the standard NAT protocol to translate the H.323 packet so as to define the first IP address as a source address of the H.323 packet.

34. (New) The method of claim 33, further comprising:

supporting on the edge device an H.323 proxy service;

receiving at the first H.323 port a second H.323 packet destined for the H.323 terminal, the second packet having a destination address of the first IP address; and

using the H.323 proxy server and the NAT protocol to translate the second H.323 packet so as to define the second IP address as the destination address.

35. (New) The method of claim 25, wherein the call state information includes at least one of a call state, a bandwidth authorized amount, a bandwidth in use amount, a ringing status, a call timer, a call start time, and a list of open logical channels.

36. (New) An edge device comprising:

a first communication channel for carrying on communication with at least one H.323 device, the edge device operable to receive from the at least one H.323 device over the first communication channel a first request for call-administration control of an H.323 call for the H.323 device, the first request being addressed to the edge device;

a second communication channel for carrying on communication with at least one element of a packet-based network, the edge device operable to send to the at least one element of the packet-base network over the second communication channel unbeknownst to the at least one H.323 device a second request for call-admission control of the H.323 call for the H.323 device;

a memory for holding call state information about the H.323 call device; and

a processor for processing communications on the first and second channels.

37. (New) The edge device of claim 36, wherein the call-admission control includes a standard network address translation (NAT) protocol and an H.323 proxy service, wherein the processor is operable to use the standard NAT protocol and the H.323 proxy service to translate and route into the packet-based network an H.323 packet received over the first communication channel, and wherein the processor is operable to use the standard NAT protocol and the H.323 proxy service to translate and route to the H.323 device a packet received over the second communication channel.

38. (New) A gate controller comprising:

a first communication channel for carrying on communication with at least one element of packet-based network, the at least one element packet-based network including a plurality of H.323 ports and a back end server, any of the plurality of H.323 ports operable to transmit unbeknownst to an H.323 terminal coupled to the H.323 port a request for call-admission control for an H.323 call originated from the H.323 terminal;

a memory for holding a port status table, the port status table indicating the status of each of the plurality of H.323 ports;

a processor for supporting call-admission control for each of the plurality of H.323 ports, the processor capable of processing unbeknownst to the H.323 terminal at least one request for call-admission control received over the first communication channel from a given H.323 port of the plurality of H.323 ports.

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39. (New) The gate controller of claim 38, wherein the memory includes a cache for storing the corresponding request, wherein the processor is operable to communicate with a back end server over the first communication channel to process the corresponding request, and wherein the processor is operable to transmit a response to the corresponding request after communicating with the back end server.

40. (New) A system comprising:

a call switching device for responding to call-admission control requests for H.323 calls;

and

an edge device having a first H.323 port and a memory, the memory storing call state information about an H.323 call originated from an H.323 terminal coupled to the first H.323 port, the edge device operable to:

- (i) receive a request for call-admission control for the H.323 call;
- (ii) transmit to the call-switching device unbeknownst to the H.323 terminal a second request for call-admission control for the H.323 call; and
- (iii) receive from the call-switching device a response corresponding the second request for call-admission control for the H.323 call.

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41. (New) The system of claim 40, wherein the edge device further comprises a modified H.323 gateway, the modified H.323 gateway operable to store a parameter indicative of the H.323 port and call state information corresponding to a state of the H.323 call, and wherein the call-switching device comprises a modified H.323 gatekeeper, the modified H.323 gatekeeper operable to process transactional call state information corresponding to a state of the H.323 call, whereby the modified H.323 gatekeeper does not maintain call state for the H.323 call.

42. (New) The system of claim 41, wherein the H.323 call has a duration, wherein the modified H.323 gateway is operable to store the parameter indicative of the H.323 port and the call state information corresponding to the state of the call on the H.323 port for the duration of the call.

43. (New) The system of claim 41, wherein the modified H.323 gatekeeper supports responding to a request for admission, and wherein the modified H.323 gatekeeper is operable to:

receive the call state information with the admission request; and

not store the call state information after responding to the admission request.

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